

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H03M5/14 G11B20/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H03M G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	IMMINK A H J ET AL: "Signal processing and coding for two-dimensional optical storage" IEEE GLOBAL TELECOMMUNICATIONS CONFERENCE GLOBECOM' 03, vol. 7, 1 December 2003 (2003-12-01), pages 3904-3908, XP010677345 the whole document  ----- -/--	1-17

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

12 August 2004

Date of mailing of the international search report

24/08/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Farman, T

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ASHLEY J J ET AL: "TWO-DIMENSIONAL LOW-PASS FILTERING CODES"            IEEE TRANSACTIONS ON COMMUNICATIONS, IEEE INC. NEW YORK, US,            vol. 46, no. 6, 1 June 1998 (1998-06-01),            pages 724-731, XP000779675            ISSN: 0090-6778            abstract            page 724, left-hand column, last paragraph            - right-hand column, paragraph 1            section III, "Constraint 2"            page 725, left-hand column, last paragraph            - right-hand column, paragraph 3</p>	1-3, 10-15,17
X	<p>WO 03/034596 A (OPHEY WILLEM G ; COENE WILLEM M J M (NL); KONINKL PHILIPS ELECTRONICS) 24 April 2003 (2003-04-24)            abstract            page 9, line 14 - line 32; figure 4            page 10, line 1 - line 4; figures 5A,5B</p>	1-4,6,8, 10-15,17
X	<p>PANSATIANKUL D E ET AL: "FIXED-LENGTH TWO-DIMENSIONAL MODULATION CODING FOR IMAGING PAGE-ORIENTED OPTICAL DATA STORAGE SYSTEMS"            APPLIED OPTICS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, US,            vol. 42, no. 2,            10 January 2003 (2003-01-10), pages            275-290, XP001160172            ISSN: 0003-6935            section "4. Fixed-Length 2-* Modulation Codes for Imaging PODS Systems"</p>	1-4,6,8, 10-15,17
X	<p>KURTAS E ET AL: "Performance comparisons of MSN codes for multi-track magnetic recording systems"            GLOBAL TELECOMMUNICATIONS CONFERENCE, 1996. GLOBECOM '96. 'COMMUNICATIONS: THE KEY TO GLOBAL PROSPERITY LONDON, UK 18-22 NOV. 1996, NEW YORK, NY, USA, IEEE, US,            18 November 1996 (1996-11-18), pages            348-352, XP010220378            ISBN: 0-7803-3336-5            the whole document            page 350, left-hand column, line 11 - line 41</p>	1,11-13

-/--

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SELAVO A L ET AL: "Adaptive code modulation for 2D optical memories" IEEE 2002 INTERNATIONAL SYMPOSIUM ON OPTICAL MEMORY AND OPTICAL DATA, WAIKOLOA, HI, USA, 7 July 2002 (2002-07-07), pages 231-233, XP010600183 the whole document Section "3. Approach" page 233, paragraph 1 -----	1,11-13
X	WEEKS W ET AL: "The capacity and coding gain of certain checkerboard codes" IEEE TRANSACTIONS ON INFORMATION THEORY, vol. 44, no. 3, May 1998 (1998-05), pages 1193-1203, XP002227665 ISSN: 0018-9448 the whole document -----	1,11-13

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03034596	A	24-04-2003	EP 1440513 A1	28-07-2004
			EP 1440514 A1	28-07-2004
			WO 03034595 A1	24-04-2003
			WO 03034596 A1	24-04-2003

BEST AVAILABLE COPY